

## Earth's Materials and Changes

### 3-3 The student will demonstrate an understanding of Earth's composition and the changes that occur to the features of Earth's surface. (Earth Science)

#### 3.3.3 Recognize types of fossils (including molds, casts, and preserved parts of plants and animals).

**Taxonomy level:** 1.1-A Remember Factual Knowledge

**Previous/Future knowledge:** Fossils are introduced as new material for 3<sup>rd</sup> grade. They will be studied further in 8<sup>th</sup> grade (8-2.2) when students will summarize how scientists study Earth's past environment and diverse life forms by examining different types of fossils (including molds, casts, petrified fossils, preserved and carbonized remains of plants and animals, and trace fossils). In high school Earth Science (6.3), students will summarize how fossil evidence reflects the changes in environmental conditions on Earth over time.

**It is essential for students to** know that a *fossil* is the remains of a living thing that lived long ago that has turned to rock. There are several types of fossils:

##### *Mold*

- A *cavity* or opening in a rock that has the shape of once living thing.
- Fossil imprints of leaves and other thin objects, such as wings, feathers, and footprints are also molds.
- The leaves or animal parts rotted away long ago.

##### *Cast*

- A mold that has been filled in with sediments which harden and take the shape of the once living thing.

##### *Preserved parts*

- Actual parts of the living thing such as shells, bones, or teeth that have turned to stone.
- For example, sometimes an insect long ago was trapped in tree sap.
- That sap hardened into a rock called amber.
- The insect was preserved in the amber stone.

**It is not essential for students to** know about carbonized imprint fossils. It may be interesting to discuss that some fossils are frozen remains or remains found in tar pits but these are not necessary for assessment.

#### **Assessment Guidelines:**

The objective of this indicator is to *recognize* types of fossils; therefore, the primary focus of assessment should be to locate a fossil type (including molds, casts, and preserved parts of plants and animals) based on the information presented about that fossil. However, appropriate assessments should also require students to *identify* a particular fossil from a drawing or picture; or *recall* types of fossils as stated in the indicator. –